Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (currently amended) A system for identifying a scrambling code from signals received from a base station, comprising:

a scrambling code generator configured to generate a plurality of scrambling code segments in a sequential manner, the plurality of scrambling code segments making up a master scrambling code; and

a plurality of correlators arranged in a sequential manner, each correlator maintaining a corresponding scrambling code segment and configured to correlate a set of received signals with its corresponding scrambling code segment and generate corresponding correlation results, the plurality of correlators collectively performing their correlations in a parallel manner in one or more iterations;

wherein after each performed iteration, all but one of the plurality of correlators shift their corresponding scrambling code segments to their respective neighboring correlators and a new scrambling code segment is generated by the scrambling code generator and fed to one of the plurality of correlators,

wherein a mobile terminal incorporates the system.

2. (previously presented) The system according to claim 1 wherein the number of iterations performed by the plurality of correlators depends on a selected correlation length and a predetermined chip offset; and

wherein the length of each correlator depends on the predetermined chip offset.

3. (previously presented) The system according to claim 1 wherein after each performed iteration, a new set of received signals is received by each correlator.

4. (previously presented) The system according to claim 1 wherein the correlation results generated by the plurality of correlators are evaluated to identify the scrambling code from the received signals thereby allowing the identity of the base station which transmitted the received signals to be identified.

5. (previously presented) The system according to claim 1 wherein the plurality of correlators perform their correlations in a real-time manner.

6. (canceled)

7. (previously presented) The system according to claim 1 wherein the base station is located in a W-CDMA communication network.

8. (currently amended) A system for identifying a scrambling code from signals received from a base station, the base station belonging to one of a plurality of base station groups in a communication network, the system comprising:

a scrambling code generator configured to generate a plurality of scrambling code segments in a sequential manner, the plurality of scrambling code segments making up a master scrambling code; and

a plurality of correlators arranged in a sequential manner, each correlator maintaining a corresponding scrambling code segment and configured to correlate a set of received signals with its corresponding scrambling code segment and generate corresponding correlation results, the plurality of correlators collectively performing their correlations in a parallel manner in one or more iterations;

wherein after each performed iteration, all but one of the plurality of correlators shift their corresponding scrambling code segments to their respective neighboring correlators and a new scrambling code segment is generated by the scrambling code generator and fed to one of the plurality of correlators,

wherein a mobile terminal incorporates the system.

9. (previously presented) The system according to claim 8 wherein the number of iterations performed by the plurality of correlators depends on a selected correlation length and a predetermined chip offset; and

wherein the length of each correlator depends on the predetermined chip offset.

10. (previously presented) The system according to claim 8 wherein after each performed iteration, a new set of received signals is received by each correlator.

11. (previously presented) The system according to claim 8 wherein the correlation results generated by the plurality of correlators are evaluated to identify the scrambling code from the received signals thereby allowing the identity of the base station which transmitted the received signals to be identified.

12. (previously presented) The system according to claim 8 wherein the master scrambling code has a period determined by a selected correlation length and a predetermined group chip offset.

13. (previously presented) The system according to claim 12 wherein the predetermined group chip offset is determined by the number of base stations within a base station group and a predetermined chip offset.

14. (previously presented) The system according to claim 8 wherein the number of the plurality of correlators depends on the number of base stations within a base station group.

15. (previously presented) The system according to claim 8 wherein the plurality of correlators perform their correlations in a real-time manner.

16. (canceled)

17. (previously presented) The system according to claim 8 wherein the communication network is a W-CDMA communication network.

18. (previously presented) A system for identifying a scrambling code from signals received from a base station, the base station belonging to one of a plurality of base station groups in a communication network, the system comprising:

a scrambling code generator configured to generate a plurality of scrambling code segments in a sequential manner, the plurality of scrambling code segments making up a master scrambling code; and

a plurality of correlators coupled in a sequential manner and having a first correlator, a last correlator and a plurality of intermediate correlators coupled between the first correlator and the last correlator, the plurality of correlators configured to perform correlations in a parallel manner in one or more iterations;

wherein:

the plurality of correlators are each populated with corresponding scrambling code segments generated by the scrambling code generator;

each of the plurality of correlators receives a set of received data samples;

the plurality of correlators correlate the set of received data samples with their corresponding scrambling code segments in parallel in one iteration;

after the one iteration is completed, the plurality of intermediate correlators and the last correlator shift their corresponding scrambling code segments to their respective neighboring correlator, the corresponding scrambling code segment of the first correlator is discarded, and a new scrambling code segment is generated by the scrambling code generator and fed to the last correlator.

19. (previously presented) The system according to claim 18 wherein after the one iteration is completed, a new set of received data samples is received by the plurality of correlators.

20. (previously presented) The system according to claim 18 wherein the master scrambling code has a period determined by a selected correlation length and a predetermined group chip offset.

21. (previously presented) The system according to claim 20 wherein the predetermined group chip offset is determined by the number of base stations within a base station group and a predetermined chip offset.

22. (previously presented) The system according to claim 18 wherein the number of the plurality of correlators depends on the number of base stations within a base station group.

23. (previously presented) The system according to claim 18 wherein the plurality of correlators perform their correlations in a real-time manner.

24. (previously presented) The system according to claim 18 wherein the new scrambling code segment follows the corresponding scrambling code segment which was in the last correlator before that corresponding scrambling code segment was shifted.

25. (previously presented) A mobile terminal incorporating the system as recited in claim 18.

26. (previously presented) The system according to claim 18 wherein the communication network is a W-CDMA communication network and the system is used in connection with acquisition of a downlink of a 3GPP W-CDMA cell during stage 3 of a cell search procedure.

27. (previously presented) A method for identifying a scrambling code from signals received from a base station, comprising:

selecting a correlation length;

identifying a master scrambling code using the selected correlation length, the master scrambling code comprising a plurality of scrambling code segments arranged in a sequential manner;

populating each of a plurality of correlators with a corresponding scrambling code segment in a sequential manner;

providing a set of received data samples to each of the plurality of correlators;

causing each of the plurality of correlators to correlate the set of received data samples with its corresponding scrambling code segment and store corresponding correlation results;

shifting the corresponding scrambling code segments of all but one of the plurality of correlators to their respective neighboring correlators;

populating one of the plurality of correlators with a new scrambling code segment, the new scrambling code segment sequentially following the corresponding scrambling code segments which have previously been used to populate the plurality of correlators; and

repeating the providing step, the causing step, the shifting step and the populating step with the new scrambling code segment with successive sets of received data samples until the selected correlation length is achieved.

28. (previously presented) The method of claim 27 further comprising:

evaluating the stored correlation results generated by the plurality of correlators to identify the scrambling code from the signals received from the base station thereby allowing the identity of the base station to be identified.

29. (previously presented) The method of claim 27 wherein the causing step further comprises:

causing each of the plurality of correlators to correlate in a concurrent and real-time manner.

30. (previously presented) A mobile terminal utilizing the method as recited in claim 27.

31. (previously presented) The method according to claim 27 wherein the base station is located in a W-CDMA communication network and the method is used in connection with acquisition of a downlink of a 3GPP W-CDMA cell during stage 3 of a cell search procedure.

32. (previously presented) A method for identifying a scrambling code from signals received from a base station, the base station belonging to one of a plurality of base station groups in a communication network, the method comprising:

identifying a master scrambling code, the master scrambling code comprising a plurality of scrambling code segments arranged in a sequential manner;

performing a series of successive correlation iterations using a number of scrambling code segments taken from the plurality of scrambling code segments and corresponding sets of received data samples; and

for each correlation iteration:

providing a new set of received data samples;

correlating the new set of received data samples with the number of scrambling code segments and storing correlation results; and

refreshing the number of scrambling code segments in a first-in-first-out basis by discarding one scrambling code segment and adding another scrambling code segment.

33. (previously presented) The method of claim 32 further comprising:

evaluating the collectively stored correlation results to identify the scrambling code from the signals received from the base station thereby allowing the identity of the base station to be identified.

34. (previously presented) The method of claim 32 wherein for each correlation iteration, the correlating step further comprises:

correlating the new set of received data samples with each of the number of scrambling code segments in a concurrent manner.

35. (previously presented) The method of claim 32 further comprising:

selecting a correlation length; and

wherein the period of the master scrambling code depends on the correlation length and a predetermined group chip offset.

36. (previously presented) The method of claim 35 wherein the predetermined group chip offset depends on the number of base stations within a base station group and a predetermined chip offset between two adjacent base stations within the base station group.

37. (previously presented) The method of claim 35 wherein the number of successive correlation iterations depends on the selected correlation length and the number of scrambling code segments being correlated during each correlation iteration.

38. (previously presented) A mobile terminal utilizing the method as recited in claim 32.

39. (previously presented) The method according to claim 32 wherein the communication network is a W-CDMA communication network and the method is used in connection with acquisition of a downlink of a 3GPP W-CDMA cell during stage 3 of a cell search procedure.

40. (previously presented) A method for identifying a scrambling code from signals received from a base station, the base station belonging to one of a plurality of base station groups in a communication network, the method comprising:

identifying a master scrambling code, the master scrambling code comprising a plurality of scrambling code segments arranged in a sequential manner;

configuring a scrambling code generator to generate the plurality of scrambling code segments one scrambling code segment at a time;

configuring a plurality of correlators in a sequential manner to perform correlations, the plurality of correlators having a first correlator, a last correlator and a plurality of intermediate correlators coupled between the first correlator and the last correlator;

populating each of the plurality of correlators with a corresponding scrambling code segment generated from the scrambling code generator;

causing the plurality of correlators to perform a series of successive correlation iterations using their corresponding scrambling code segments and corresponding sets of received data samples; and

for each correlation iteration:

providing a new set of received data samples;

causing the plurality of correlators to respectively correlate the new set of received data samples with their corresponding scrambling code segments and store respective correlation results;

shifting the corresponding scrambling code segments of the plurality of intermediate correlators and the last correlator to their respective neighboring correlators;

transferring a new scrambling code segment generated by the scrambling code generator to the last correlator, the new scrambling code segment is in sequence with the corresponding scrambling code segment which was previously present in the last correlator.

41. (previously presented) The method of claim 40 further comprising:

for each correlation iteration, discarding the corresponding scrambling code segment of the first correlator.

42. (previously presented) The method of claim 40 wherein the causing step further comprises:

causing the plurality of correlators to correlate in a concurrent manner.

43. (previously presented) The method of claim 40 further comprising:

selecting a correlation length; and

wherein the period of the master scrambling code depends on the correlation length and a predetermined group chip offset.

44. (previously presented) The method of claim 43 wherein the predetermined group chip offset depends on the number of base stations within a base station

group and a predetermined chip offset between two adjacent base stations within the base station group.

45. (previously presented) The method of claim 43 wherein the number of successive correlation iterations depends on the selected correlation length and the length of each scrambling code segment.

46. (previously presented) A mobile terminal utilizing the method as recited in claim 40.

47. (previously presented) The method according to claim 40 wherein the communication network is a W-CDMA communication network and the method is used in connection with acquisition of a downlink of a 3GPP W-CDMA cell during stage 3 of a cell search procedure.